

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for manufacturing a glass optical element having at least one concave surface with no grinding or polishing, comprising:

softening a glass molding material by heating,

molding the softened material with a first mold having a first molding surface and a second mold having a second molding surface by applying a pressure, the first molding surface comprising a first concave forming surface, the second molding surface comprising one of a convex forming surface, a planar forming surface and a second concave forming surface, the second concave forming surface having a curvature radius greater than that of said first concave surface,

whereby the applying of the pressure starts when the first mold and the second mold are at temperatures above a glass transition temperature of said glass molding material,

cooling the first mold and the second mold so that temperatures of the first mold and the second mold reach temperatures equal to or lower than the glass transition temperature, and

removing the cooled glass from either of said first mold or said second mold,

wherein during the cooling, a second temperature of said second mold reaches the glass transition temperature prior to a time when a first temperature of said first mold reaches the glass transition temperature.

Claim 2 (Canceled).

Claim 3 (Previously Presented): The method of Claim 1 wherein said first mold comprises an upper mold and said second mold comprises a lower mold.

Claim 4 (Previously Presented): The method of Claim 3 wherein when the second temperature of the second mold reaches the glass transition temperature, the first temperature is at least 5 degrees centigrade higher than the glass transition temperature.

Claim 5 (Previously Presented): The method of Claim 4 wherein when the second temperature reaches the glass transition temperature, the first temperature is 5 degrees to 40 degrees centigrade higher than the glass transition temperature.

Claim 6 (Previously Presented): The method of Claim 5 wherein when the second temperature reaches the glass transition temperature, the first temperature is 5 degrees to 30 degrees centigrade higher than the glass transition temperature.

Claim 7 (Previously Presented): The method of Claim 6 wherein when the second temperature reaches the glass transition temperature, the first temperature is 5 degrees to 20 degrees centigrade higher than the glass transition temperature.

Claim 8 (Original): The method of Claim 3 wherein the second temperature of the second mold is lower than the first temperature of the first mold at the end of the molding step.

Claim 9 (Previously Presented): The method of Claim 8 wherein the second temperature of the second mold is at least 5 degrees centigrade lower than the first temperature of the first mold at the end of the molding step.

Claim 10 (Previously Presented): The method of Claim 9 wherein the second temperature of said second mold is 5 to 40 degrees centigrade lower than the first temperature of said first mold at the end of the molding step.

Claim 11 (Previously Presented): The method of Claim 10 wherein the second temperature of said second mold is 5 to 30 degrees centigrade lower than the first temperature of said first mold at the end of the molding step.

Claim 12 (Previously Presented): The method of Claim 11 wherein the second temperature of said second mold is 5 to 20 degrees centigrade lower than the first temperature of said first mold at the end of the molding step.

Claim 13 (Original): The method of Claim 8 wherein the second temperature of said second molding surface is lower than the first temperature of said first mold throughout the molding step.

Claim 14 (Original): The method of Claim 13 wherein the difference between the second temperature and the first temperature becomes gradually smaller in the molding step.

Claim 15 (Previously Presented): The method of Claim 3 wherein an initial pressure is applied and, a secondary pressure which is smaller than the initial pressure is applied following the application of the initial pressure.

Claim 16 (Original): The method of Claim 3 wherein b/a is at least 1.5 where a is a center thickness of the glass optical element and b is a peripheral thickness of the glass optical element.

Claim 17 (Previously Presented): The method of Claim 3 wherein the second molding surface comprises a second concave forming surface having a curvature radius greater than that of the first concave forming surface.

Claim 18 (Original): The method of Claim 4 wherein the second temperature of said second mold is lower than the first temperature of said first mold throughout the molding step.

Claim 19 (Original): The method of Claim 7 wherein the second temperature of said second mold is lower than the first temperature of said first mold throughout the molding step.

Claim 20 (Previously Presented): The method of Claim 19 wherein an initial pressure is applied and, a secondary pressure which is smaller than the initial pressure is applied following the application of the initial pressure.

Claim 21 (Previously Presented): The method of Claim 13 wherein the second temperature is kept at least 5 degrees centigrade lower than the first temperature at least up to when the second temperature reaches the glass transition temperature.

Claim 22 (Previously Presented): The method of Claim 3 wherein both of the first temperature of the first mold and the second temperature of the second mold are below the glass transition temperature when the pressure application is ended.

Claim 23 (Previously Presented): The method of Claim 3 wherein the glass optical element has one concave surface and one convex surface, and the radius of curvature of the concave surface is smaller than the radius of curvature of the convex surface.

Claim 24 (Previously Presented): The method of Claim 15 wherein the application of the initial pressure lasts for a period of 30 to 300 seconds.

Claim 25 (Previously Presented): The method of Claim 3 wherein the cooling rate of the first mold and the second mold is controlled by an inert cooling gas.